

## PERFORMANCE WORK STATEMENT

PR-R3-##-#####

May 2018

### **A. TITLE: Technical Assistance to EPA Region III for Biological TMDL Development in select waters of the State of West Virginia**

### **B. Background & Objectives:**

#### **Background**

EPA Region III and the West Virginia Department of Environmental Protection (WVDEP) has entered into a Memorandum of Agreement (MOA) on June 13, 2017, which establishes a schedule to finalize Total Maximum Daily Loads (TMDL) to address lists of waters that are not achieving West Virginia's narrative water quality criteria as applied to aquatic life, prepared and submitted to EPA pursuant to Section 303(d) of the Clean Water Act. The specific waters included in the MOA are those listed by complainants in the *Ohio Valley Environmental Coalition, et al. v. Pruitt, et al.*, Case No. 3:15-cv-00271 (S.D. W.Va. February 14, 2017), for which no TMDLs have been completed to address impairment and for which evidence supports continued listing of the water on the 303(d) list. Included in the MOA are waters for which ionic stress was identified as a biological stressor in earlier projects to develop TMDLs for the waters.

In the fall of 2010, EPA and WVDEP began a project to develop a pilot TMDL for ionic toxicity in streams in the Upper Kanawha Watershed. EPA and WVDEP collaborated on workgroups focused on TMDL planning, endpoint development, model development, and treatment technology. During the pilot project, a TMDL endpoint was proposed for specific conductivity and a model was developed. The WVDEP ended participation in the pilot project in April 2012, citing state legislation that required the development of new assessment methodology to determine biological impairment. While WVDEP has not prepared biological TMDLs since that time, hundreds of TMDLs for pollutants have been developed and approved, including TMDL which address biological stress and result in attainment of the narrative water quality criteria for aquatic life in waters listed in the court case.

#### **Objectives**

The purpose of this Performance Work Statement (PWS) is to support development of TMDLs for stream in the Upper Guyandotte River watershed, identified in the MOA. Support will resume efforts to determine a TMDL endpoint and parameterize/calibration a watershed model. This PWS includes tasks to facilitate technical advisory committee contributions, determine a TMDL endpoint, prepare a model quality assurance project plan (QAPP), characterize sources of

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ionic strength, parameterize and recalibrate an existing model to represent ionic strength, and run the model to establish allocations for TMDLs, specifically for waters found in Attachment 1. Specifics of each task and the accompanying deliverables are discussed in the next section.

### **C. Tasks:**

The contractor shall provide support for the below tasks. Written technical direction will be utilized to provide further detail on specific work included in the PWS, provide guidance, or approve or comment on deliverables. The Task Order Contracting Officer's Representative (TOCOR), the Alternate TOCOR (if the TOCOR is on leave or travel), and the Contracting Officer are the only individuals authorized to issue technical direction. The contractor shall anticipate working with the TOCOR, staff lead from EPA Water Protection Division (WPD) and the District to furnish the requested technical assistance. **However, only the TOCOR may issue written technical direction.**

#### **Task 1: Kickoff Meeting, Reporting, and Communication**

The contractor shall participate in a Kickoff Meeting with the TOCOR via conference call to discuss the following: timelines, the schedule of benchmarks, milestones and deliverables, establish dates and times for monthly calls, monthly technical progress reports, and general Task Order administrative information. The technical progress report shall include status updates of all the tasks of this PWS.

The TOCOR will coordinate and set-up monthly working calls between EPA staff, WVDEP staff, and the contractor's technical lead to discuss the status and progress of the work under this Task Order. The contractor shall participate in these monthly calls. The frequency of the monthly conference calls may be modified based on the project status at the request of the contractor and only as approved by EPA.

The contractor shall notify the TOCOR of any problems, delays or questions as soon as they arise, including immediate written notification of any Task Order delays. The contractor shall provide a written monthly status report in accordance with the contract requirements which will be used for invoice review purposes.

In general, written materials including meeting summaries shall be furnished by the contractor within five business days after the meeting in draft form for the TOCOR to review; then a final written deliverable will be expected within five business days after receipt of written technical direction from the TOCOR, including the TOCOR's comments and edits to the draft deliverable.

Task 1 Deliverables: Meeting summaries following conference calls

#### **Task 2: Facilitate Technical Advisory Committee**

The contractor will organize monthly conference calls of the WV Ionic Stress TMDL Technical Advisory Committee and attend at least one in-person meeting to discuss TMDL endpoints and approach for TMDL development. The contractor will prepare slides on technical aspects of the

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TMDL development approach and be prepared to answer questions. Meeting will be held at the WVDEP Headquarters in Charleston, WV.

Task 2 Deliverables: Agendas, meeting minutes, presentations, and correspondence from committee

### **Task 3: TMDL Endpoint Development**

EPA will share previous documentation that supported a proposed TMDL endpoint and provided rationale and analysis results as a starting point. The contractor will perform additional statistical analyses requested by EPA staff to support endpoint identification. To properly characterize ionic strength, general measures of electrical conductivity, such as specific conductivity and Total Dissolved Solids (TDS), as well as individual ions should be analyzed to identify which one ion or combination of ions contribute(s) significantly to biological impairment.

Task 3 Deliverables: Document to provide a detailed overview of the data and technical analysis used to identify water quality endpoints for ionic strength.

### **Task 4: Model Selection**

The contractor will work with EPA and WVDEP to determine an appropriate model to address waters impaired by ionic strength. EPA will share previous work products, including a TMDL modeling development as a starting place for these deliberations. The contractor may make new approach recommendations based on their modeling expertise. The contractor will provide recommendations based on the complexity of the pollutant loading dynamics, sources, data availability, etc. The contractor will prepare a memo summarizing the model selection, which will include model programs, watershed boundaries, modeling timeframe, as well as other elements the contractor deems appropriate.

Task 4 Deliverables: Model Selection Memo

### **Task 5: Modeling QAPP Development**

The contractor will prepare a modeling QAPP taking into consideration *Guidance on QA Project Plans for Modeling* (EPA QA/G – 5M) and *Guidance for Quality Assurance Project Plans for Water Quality Modeling Projects* (attached). The contractor will work with EPA and WVDEP to determine which elements of the QAPP should be included.

Task 5 Deliverables – Modeling QAPP

### **Task 6: Model Development**

Upon approval of the modeling QAPP, the contractor will develop the model(s) in accordance with the QAPP. The contractor will develop a calibrated and validated model, TMDL allocation scenarios, and a modeling report. The modeling report will be broken up into milestones in order to allow for review and comment on the model development. The first milestone will include

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model background, such as model set-up and watershed characteristics (including land use maps). The second milestone will characterize the calibrated and validated model, including graphical representations of model output. The third milestone will present a minimum of two TMDL allocation scenarios. This milestone will include graphical representations of endpoint/water quality standard attainment. The fourth milestone will include discussion on TMDL requirements, including critical conditions, seasonal variability, margin of safety, and conservative assumptions. Additionally, the contractor will share model input and output files upon completion of the modeling report. Model files should include model input, model output, for existing conditions and TMDL scenarios along with an index (or another appropriate document) that identifies each file included. All relevant GIS files should also be delivered at this time.

#### Deliverable 6.1: Modeling Report

Deliverable 6.1.1: Model Background

Deliverable 6.1.2: Calibrated and Validated Model

Deliverable 6.1.3: TMDL Allocation Scenarios

Deliverable 6.1.4: TMDL Requirements

#### Deliverable 6.2: Model and GIS Files

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#### **Task 7: Response to Public Comments (Optional)**

The contractor shall assist WVDEP and EPA in responding to any public comments received on the draft TMDL Revisions. The contractor will be assigned comments related to modeling, calculations, and other technical aspects of the TMDLs and will develop responses to those comments. The Contractor shall advise EPA and WVDEP where TMDLs should be revised, as appropriate, based on public input and in coordination with EPA and WVDEP.

#### Task 8 Deliverables: Public Comment Responses

#### **Task 8: Revise TMDLs (Optional)**

As needed based on public comments, the contractor will make revisions to the TMDL scenarios and allocations. Those comments shall be reflected in an updated modeling report.

#### Task 9 Deliverables: Revised TMDL Allocations and Modeling Report (as necessary)

#### **D. Schedule of Benchmarks & Deliverables:**

As a general rule, upon receipt of a draft deliverable, EPA will have three weeks to collate internal and external comments and return to the contractor. The contractor will then have an additional one week to make changes, which will be reviewed by EPA. EPA will have one week

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to indicate any necessary final adjustments. If final adjustments are needed, the contractor will have three additional business days to finalize the document.

The deliverables and anticipated completion dates are as follows:

Task	Deliverables	Task Completion Timeframe	Task Finalization
Task 1 – Initiate project kickoff conference call	Deliverable 1: Meeting summary		
Task 2 – Facilitate Technical Advisory Committee	Deliverable 2: Agendas, meeting minutes, presentations, and correspondence from committee		
Task 3 – TMDL Endpoint Development	Deliverable 3: Detailed overview of technical analysis used to identify endpoints for ionic strength		
Task 4 – Model Selection	Deliverable 4: Model Selection Memo		
Task 5 – Modeling QAPP Development	Deliverable 5.1: Modeling QAPP		
Task 6 – Model Development	Deliverable 6.1: Modeling Report		
	Deliverable 6.1.1: Model Background		
	Deliverable 6.1.2: Calibrated and Validated Model		
	Deliverable 6.1.3: TMDL Allocation Scenarios		
	Deliverable 6.1.4: TMDL Requirements		
	Deliverable 6.2: Model and GIS Files		
Task 7 – Respond to Public Comments (Optional)	Deliverable 8.1: Public Comment Responses	Within 2 months of the close of public comment period	Within 6 weeks after draft submittal

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Task 8 – Revise TMDLs (Optional)	Deliverable 9.1: Revised TMDL Allocations and Modeling Report	As needed, within 3 months of the close of public comment period	Within 6 weeks after draft submittal
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**E. Reporting:**

All documentation and reporting under this Task Order shall be in compliance with the contract requirements.

**F. Travel:**

All travel under this Task Order shall be in compliance with contract requirements when in-person meetings are required. Anticipated two or three in-person, the vast majority of the interactions will be conducted through conference calls. The length of the meetings and the amount of contract personnel needed for each trip will be provided to the contractor through written technical direction from the TOCOR.

**G. Contractor Identification:**

Contractor personnel shall always identify themselves as Contractor employees by name and organization and physically display that information through an identification badge. Contractor personnel are prohibited from acting as the Agency's official representative.

The Contractor shall refer any questions relating to the interpretation of EPA policy, guidance, or regulation to the Task Order Manager.